Remarks/Arguments:

Examiner has cited three items in rejecting applicant's claims 1-8 under 35 USC 103(a): (1) a document fragment posted on the World Wide Web titled "LSAM Configurable Cache Replacement Policies," (2) a document fragment posted on the World Wide Web titled "Dynamic Cache Control," and (3) a paper by Serpanos, et al., in "Proceedings of SPIE."

Applicant respectfully traverses the citation of items (1) and (2) in the examination of this application. Applicant believes that neither of these constitutes a reference that is material to the patentability of Applicant's invention. Item (1) mentions only future plans ("In the future, we will implement mechanisms . . .") to work in the same general area of endeavour, without providing any enabling disclosure of technical aspects relevant to this broad area of endeavour. Item (2) seems to assert that some progress has been made in some aspect of the same broad field of endeavour, but, like item (1), provides no enabling technical disclosure to provide insight into what this progress might have been or how to reproduce this work.

Concerning Serpanos, item (3), Applicant respectfully holds that this reference teaches against Applicant's invention. The fundamental premises of Serpanos, as stated in the Abstract, are that "Zipf's law governs access in the Web" and "that a cache replacement policy base on the . . . least frequently used (LFU) object suffices to obtain the theoretically achievable results, assuming a large enough cache." Further, "we show how a designer can make decisions and develop caching architectures for networks based on the profiles of average users." Thus Serpanos teaches the underlying presence of stable behaviour as to Internet access, and that

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caching can be accomplished with best efficacy based on long-term profile information.

In direct opposition to the teachings of Serpanos, Applicant believes that the use of the LFU caching algorithm tuned according to average user profiles and Zipf's law does not provide good performance. As an alternative to Serpanos, Applicant teaches frequent examination of short-term cache statistics using predictive modeling, and, in response to the predictive modeling result, dynamic selection of a caching algorithm from a plurality of caching algorithms. Thus Applicant respectfully holds that Serpanos cannot be combined with any other references to teach Applicant's invention, as Serpanos teaches against Applicant's invention.

Moreover, Examiner notes that Serpanos mentions prediction, specifically the use of Zipf's function "as the basis for prediction" (page 325). Applicant respectfully holds that Serpanos's use of Zipf's function concerns the retention of individual files solely under the operation of the LFU caching algorithm, whereas Applicant's invention teaches the use of predictive modeling to dynamically select the cache-management algorithm itself from a plurality of cache-management algorithms, where LFU may or may not be one of the plurality. Thus applicant's use of predictive modeling concerns the selection of a cache-management algorithm, whereas Serpanos's use of the Zipf function concerns retention of files during execution of an LFU cache management algorithm.

Applicant has amended independent claims 1, 3, and 5 to more clearly point out Applicant's invention, and has added a claim (claim 9) that depends on claim 5.

Specifically, Claim 1 is amended by this paper add the limitation "wherein the act of analyzing is performed by a predictive modeling engine," and to delete the unnecessary act "determining whether a file should be included in a cache according

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to the preferred caching algorithm." Claim 2 is canceled, as it has been incorporated into Claim 1. Applicant believes that Claim 1 is now clearly differentiated from Serpanos by the foregoing argument concerning the fundamental distinction argued above between Applicant's use of predictive modeling and Serpanos's use of the Zipf function.

Claim 3 is amended by this paper to add the preface "responsive to the act of updating" to the act of "analyzing information stored in the caching profile," and to delete the unnecessary act "determining whether the file should be included in a cache according to the preferred caching algorithm." Claim 5 is amended by this paper to add the preface "responsive to arrival of a file at a cache" to the act of "analyzing information stored in a caching profile by computing a plurality of metrics," and to delete the unnecessary act "determining whether a file should be included in a cache according to the preferred caching algorithm."

Regarding these amendments to claims 3 and 5, as note above Applicant respectfully traverses Examiner's citation of items (1) and (2). Nevertheless, Applicant believes that these amendments to Claims 3 and 5 clearly distinguish Applicant's invention from any teaching, mention, or suggestion of item (1) and/or item (2).

In view of these arguments and amendments, Applicant believes that the claims 1 and 3-9 are now ready for allowance, and respectfully asks Examiner to allow these claims.

Respectfully submitted,

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